

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1. (Canceled)

Claim 2. (Withdrawn) The method as claimed in claim 1, wherein said textile fibers contain at least one compound (A) containing at least one structural unit (I) to protect the human skin against harmful UV radiation.

Claims 3-7. (Canceled)

Claim 8. (Withdrawn-Currently Amended) A method of protecting human skin against harmful UV radiation, which comprises applying compounds (A) containing structural units of the general formula (I) as set forth in claims 1 to textile material in the course of textile finishing.

Claim 9. (Withdrawn) A method of protecting human skin against harmful UV radiation as claimed in claim 8, which comprises applying compounds (A) containing structural units of the general formula (I) as set forth in claims 1 to textile material in the course of laundering and/or laundry pre- or after-treatment.

Claim 10. (Withdrawn-Currently Amended) A method of protecting dyed textile material against fading, which comprises applying compounds (A) containing structural units

of the general formula (I) as set forth in claims 1 to textile material in the course of textile finishing.

Claim 11. (Withdrawn) A method of protecting dyed textile material against fading as claimed in claim 10, which comprises applying compounds (A) containing structural units of the general formula (I) as set forth in claims 1 to textile material in the course of laundering and/or laundry pre- or after-treatment.

Claim 12. (Withdrawn-Currently Amended) A method of increasing the UV protection factor (UPF) of textile material, which comprises applying compounds (A) containing structural units of the general formula (I) as set forth in claims 1 to textile material in the course of textile finishing.

Claim 13. (Withdrawn-Currently Amended) A method of increasing the UV protection factor (UPF) of textile material, which comprises applying compounds (A) containing structural units of the general formula (I) as set forth in claims 1 to textile material in the course of laundering and/or laundry pre- or after-treatment.

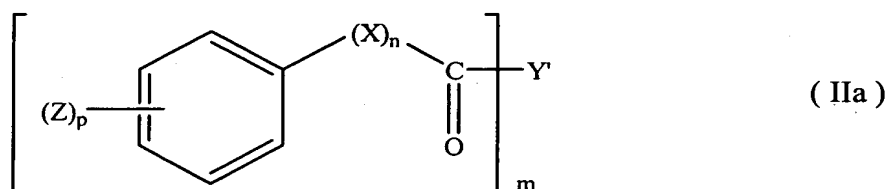
Claim 14. (Withdrawn) A laundry detergent comprising from 0.01 to 10% by weight of at least one compound (A) containing structural units of the general formula (I) as set forth in claim 1 as well as other, customary ingredients.

Claim 15. (Withdrawn) A laundry pre- and after-treatment comprising from 0.01 to 25 % by weight of at least one compound (A) containing structural units of the general

formula (I) as set forth in claim 1 as well as other, customary ingredients.

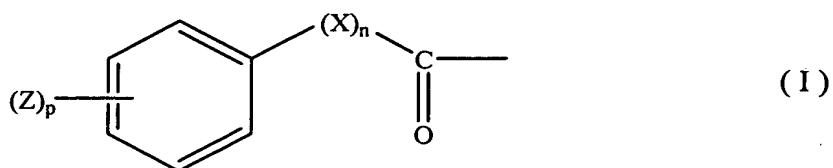
Claim 16. (Withdrawn) A laundry pre- and aftertreatment as claimed in claim 15, further comprising from 1 to 50 % by weight of one or more cationic surfactants selected from the group consisting of quaternary diesterammonium salts, quaternary tetraalkylammonium salts, quaternary diamidoammonium salts, amidoamino esters and imidazolines.

Claim 17. (Withdrawn) A compound (A') conforming to the general formula (IIa)



where

Y' is the radical of an aliphatic, cycloaliphatic, or mixed aliphatic-aromatic group which has at least m' hydroxyl groups or together at least m' primary and/or secondary amino groups and hydroxyl groups, which is capable of forming amide or ester bonds with the structural unit of the general formula (I)



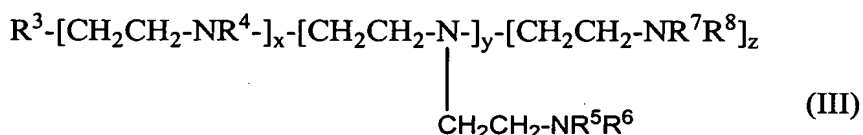
and the group Y mentioned may also be quaternized at tertiary and/or free primary and/or secondary atoms present or still present,

m' is a number from 1 to 200, where the number m of the structural units (I) accounts for from 10 to 100 % of m', with the proviso that, however, at least one structural unit (I) is present in the compounds (II),

the group Y being chosen from

(a) an aliphatic or cycloaliphatic oligoamine chosen from the group consisting of diethylenetriamine, dipropylenetriamine, triethylenetetramine, tetraethylenepentamine, pentaethylenhexamine, N-(2-aminoethyl)-1,3-propanediamine, N,N-dimethylethanolamine, diethanolamine, triethanolamine, 3-dimethylamino-1-propanol, N-(2-aminoethyl)ethanolamine, 3-(dimethylamino)propylamine, N,N'-bis(3-aminopropyl)-1,2-ethylenediamine, N,N,N',N'-tetrakis(3-aminopropyl)-1,2-ethylenediamine, N,N,N',N'-tetrakis[3-(C₁- to C₄-alkylamino)propyl]-1,2-ethylenediamine, N,N'-bis(3-aminopropyl)piperazine and N,N'-bis[3-(C₁- to C₄-alkylamino)propyl]piperazine;

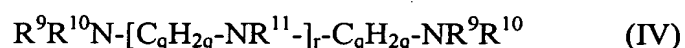
Y a polyethyleneimine of the general formula (III)



which has an average molar mass (M_w) of from 200 to 1,000,000 and wherein the radicals R³ to R⁸ are independently hydrogen, linear or branched C₁- to C₂₀-alkyl, -alkoxy, -polyoxyethylene, -hydroxyalkyl, -(alkyl)carboxy, -phosphonoalkyl, or -alkylamino radicals, C₂- to C₂₀-alkenyl radicals or C₆- to C₂₀-aryl, -aryloxy, -hydroxyaryl, -arylcarboxy or -arylamino radicals which may be further substituted, and R⁴ and R⁵ are each additionally further polyethyleneimine polymer chains, and x, y and z are independently 0 or an integer;

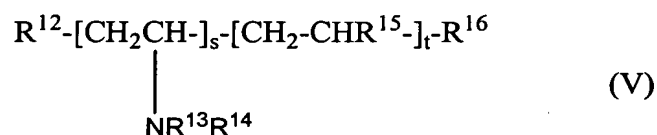
(c) a polyamidoamine which has an average molar mass (M_w) of from 500 to 100,000,000, which is obtainable by reaction of C_4 - to C_{10} -dicarboxylic acids with poly(C_2 - to C_4 -alkylene)polyamines having from 3 to 20 basic nitrogen atoms in the molecule and which has at least m' primary and/or secondary amino groups for forming amide bonds with the structural unit (I);

(d) a polyamine of the general formula (IV)



which has an average molar mass (M_w) of 100 to 100,000,000 and wherein the radicals R^9 to R^{11} are independently hydrogen, linear or branched C_1 - to C_{20} -alkyl, -alkoxy, -polyoxyethylene, -hydroxyalkyl, -(alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C_2 - to C_{20} -alkenyl radicals or C_6 - to C_{20} -aryl, -aryloxy, -hydroxyaryl, -arylcarboxy or -arylamino radicals which may be further substituted, q is an integer from 2 to 6 and r is an integer, wherein the alkylamino radicals mentioned may also be continued in the alkyl moiety;

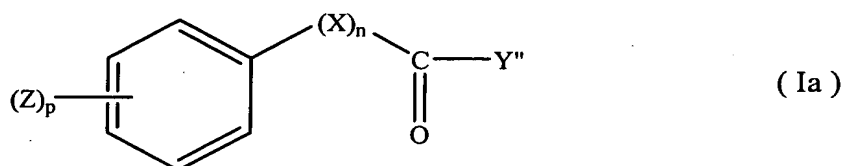
(e) a polyvinylamine of the general formula (V)



which has an average molar mass (M_w) of from 300 to 100,000,000 and wherein R^{12} to R^{16} are independently hydrogen, linear or branched C_1 - to C_{20} -alkyl, -alkoxy, -polyoxyethylene, -hydroxyalkyl, -(alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C_2 - to C_{20} -alkenyl radicals or C_6 - to C_{20} -aryl, -aryloxy, -hydroxyaryl, -arylcarboxy or -arylamino radicals which ~~may be further~~ optionally are substituted, and R^{15} is additionally a formamidyl

radical, s is an integer and t is 0 or an integer, (I) and which may also be quaternized at tertiary and/or free nitrogen atoms present or still present in the compounds (IIa), and X, Z, n and p are each as defined in claim 1.

Claim 18. (Withdrawn) A process for preparing compounds (A') conforming to the general formula (IIa) as set forth in claim 17, which comprises reacting carboxylic acid derivatives of the general formula (Ia)



where Y'' is an alkyl group having from 1 to 4 carbon atoms, a halogen atom, an amino group optionally bearing one or two C_1 - to C_4 -alkyl groups or a hydroxyl group and the other variables are each as defined above,

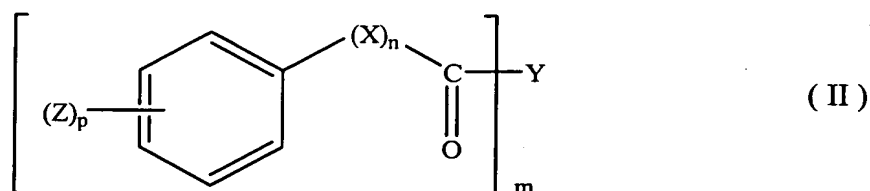
with the parent compounds of Y' to form the corresponding carboxamide structures and then optionally quaternizing some or all of the tertiary and/or primary and/or secondary nitrogen atoms present or still present in the compounds (IIa).

Claim 19. (Withdrawn) A textile material comprising at least one compound (A) containing at least one structural unit of the general formula (I) as set forth in claim 1.

Claim 20. (Currently Amended) The method as claimed in claim 1 ~~and~~ 21, wherein compound (A) is applied to the textile fibers by laundering fabric and by laundry pre- or after-treatment.

Claim 21. (New) A method of treating textile fibers, comprising:

imparting UV light protection properties to textile fibers by treating the textile fibers with a compound having UV light absorption properties that contains at least one structural unit of formula (II)



and that adheres to the textile fibers, wherein

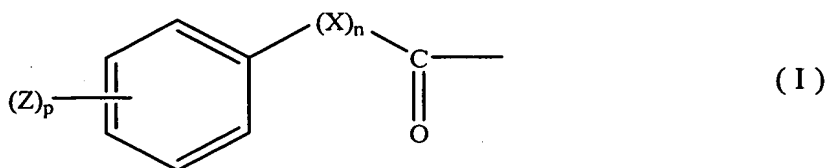
X is a group of the formula $-\text{CR}^1=\text{CR}^2-$ or a carbonyl group $\text{C}=\text{O}$, where R^1 and R^2 are independently hydrogen, C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, C_1 - to C_8 -alkoxycarbonyl, C_1 - to C_8 -acyloxy, carboxyl, cyano, nitro, fluorine, chlorine, bromine, sulfonyl, C_1 - to C_8 -alkylsulfonyl or phenyl which may be substituted by up to 3 radicals selected from the group consisting of C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, C_1 - to C_8 -alkoxycarbonyl, C_1 - to C_8 -acyloxy, carboxyl, cyano, nitro, chlorine, bromine, sulfonyl and C_1 - to C_8 -alkylsulfonyl, where R^1 optionally is the group $-\text{NQ}-\text{CO}-$, which is bonded with its carbonyl carbon atom to the ortho position of the adjacent phenyl ring to form a benzopyrrolidone system, and in which Q is hydrogen or a C_1 - C_8 -alkyl radical;

Z is a substituent selected from the group consisting of C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, C_1 - to C_8 -alkoxycarbonyl, C_1 - to C_8 -acyloxy, carboxyl, cyano, nitro, fluorine, chlorine, bromine, sulfonyl, C_1 - to C_8 -alkylsulfonyl, amino, mono- or di- C_1 - to C_8 -alkylamino, carboxamido (with or without one or two C_1 - to C_8 -alkyl groups on the amide nitrogen), hydroxyl and saturated or unsaturated five- and six-membered heterocyclic radicals, which may be benzofused, and any two adjacent Z substituents may also form a

saturated or unsaturated five- or six-membered ring, and in the case of $p=0$ an ortho-disposed carboxyl group may be combined with the carbonyl group present and a nitrogen atom attached directly to this carbonyl group to form a cyclic imide;

n is 0, 1, 2 or 3 and p is 0, 1, 2, 3, 4 or 5;

Y is the radical of an aliphatic, cycloaliphatic, or mixed aliphatic-aromatic group which has at least m' primary and/or secondary amino groups, m' hydroxyl groups or together at least m' primary and/or secondary amino groups and hydroxyl groups, which is capable of forming amide or ester bonds with the structural unit of the formula (I)



and the tertiary and/or free primary and/or secondary nitrogen atoms present in the compounds of radical Y optionally being quaternized; and

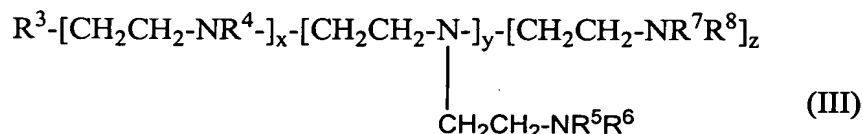
m is the number of structural units (I) bonded to primary and/or secondary amino groups and hydroxyl groups and accounts for from 10 to 100 % of the number of these m' groups which range from 1 to 200,

wherein the group Y is selected from the group consisting of

(a) an aliphatic or cycloaliphatic oligoamine selected from the group consisting of diethylenetriamine, dipropylenetriamine, triethylenetetramine, tetraethylenepentamine, pentaethylenhexamine, N -(2-aminoethyl)-1,3-propanediamine, N,N -dimethylethanolamine, diethanolamine, triethanolamine, 3-dimethylamino-1-propanol, N -(2-aminoethyl)ethanolamine, 3-(dimethylamino)propylamine, N,N' -bis(3-aminopropyl)-1,2-ethylenediamine, N,N,N',N' -tetrakis(3-aminopropyl)-1,2-ethylenediamine, N,N,N',N' -

tetrakis[3-(C₁- to C₄-alkylamino)propyl]-1,2-ethylenediamine, N,N'-bis(3-aminopropyl)piperazine and N,N'-bis[3-(C₁- to C₄-alkylamino)propyl]piperazine;

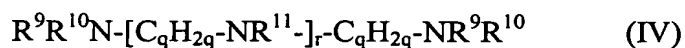
(b) a polyethyleneimine of the formula (III)



which has an average molecular weight (M_w) ranging from 200 to 1,000,000 and wherein radicals R³ to R⁸ are independently hydrogen, linear or branched C₁- to C₂₀-alkyl, -alkoxy, -polyoxyethylene, -hydroxyalkyl, -(alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C₂- to C₂₀-alkenyl radicals or C₆- to C₂₀-aryl, -aryloxy, -hydroxyaryl, -arylcarboxy or -arylamino radicals which optionally are substituted, and R⁴ and R⁵ are each additionally polyethyleneimine polymer chains, and x, y and z are independently 0 or an integer;

(c) a polyamidoamine which has an average molecular weight (M_w) ranging from 500 to 100,000,000, which is prepared by reaction of C₄- to C₁₀-dicarboxylic acids with poly(C₂- to C₄-alkylene)polyamines having from 3 to 20 basic nitrogen atoms in the molecule and which has at least m' primary and/or secondary amino groups which form amide bonds with the structural unit (I);

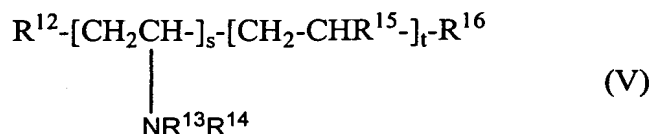
(d) a polyamine of formula (IV)



which has an average molecular weight (M_w) ranging 100 to 100,000,000 and wherein the radicals R⁹ to R¹¹ are independently hydrogen, linear or branched C₁- to C₂₀-alkyl, -alkoxy, -polyoxyethylene, -hydroxyalkyl, -(alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C₂-

to C₂₀-alkenyl radicals or C₆- to C₂₀-aryl, -aryloxy, -hydroxyaryl, -arylcarboxy or -arylamino radicals which optionally are substituted, q is an integer from 2 to 6 and r is an integer, wherein the alkylamino radicals mentioned are optionally continued in the alkyl moiety; and

(e) a polyvinylamine of formula (V)



which has an average molecular weight (M_w) ranging from 300 to 100,000,000 and wherein R¹² to R¹⁶ are independently hydrogen, linear or branched C₁- to C₂₀-alkyl, -alkoxy, -polyoxyethylene, -hydroxyalkyl, -(alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C₂- to C₂₀-alkenyl radicals or C₆- to C₂₀-aryl, -aryloxy, -hydroxyaryl, -arylcarboxy or -arylamino radicals which optionally are substituted, and R¹⁵ is additionally a formamidyl radical, s is an integer and t is 0 or an integer.

Claim 22. (New) The method as claimed in claim 21, wherein said textile fibers contain at least one compound (A) containing at least one structural unit (I) to protect dyed textile material against fading.

Claim 23. (New) The method as claimed in claim 21, wherein compound (A) which conforms to formula (II) and wherein the number m of the structural units (I) in the compounds (II) is 1, 2 or 3.

Claim 24. (New) The method as claimed in claim 21, wherein compound (A) contains at least one structural unit (I) where X is a group of the formula -CR¹=CR²- where R¹ and R²

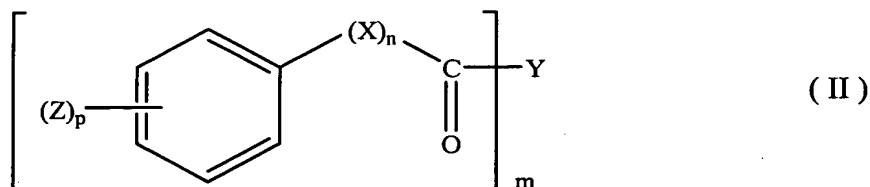
are independently hydrogen, cyano or unsubstituted phenyl or where R^1 is the group $-NH-CO-$, which is bonded with its carbonyl carbon atom to the ortho position of the adjacent phenyl ring to form a benzopyrrolidone system, and R^2 is also cyano, and n is 1.

Claim 25. (New) The method as claimed in claim 21, wherein compound (A) contains at least one structural unit (I) where Z is a substituent selected from the group consisting of C_1 - to C_8 -alkoxy, amino, mono- or di- C_1 - to C_8 -alkylamino and hydroxyl and p is 1.

Claim 26. (New) The method as claimed in claim 21, wherein compound (A) contains at least one structural unit (I) as UV absorbers for cellulosic textile material which possesses affinity for textile fiber.

Claim 27. (New) A method of treating textile fibers, comprising:

imparting UV light protection properties to textile fibers by treating the textile fibers with a compound having UV light absorption properties that contains at least one structural unit of formula (II)



and that adheres to the textile fibers, wherein

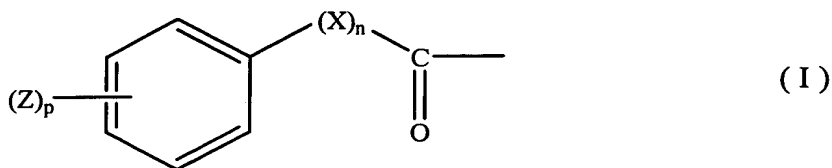
X is a group of the formula $-CR^1=CR^2-$, where R^1 and R^2 are independently hydrogen, C_1 - to C_8 -alkyl, C_1 - to C_8 -alkoxy, C_1 - to C_8 -alkoxycarbonyl, C_1 - to C_8 -acyloxy, carboxyl, cyano, nitro, fluorine, chlorine, bromine, sulfonyl, C_1 - to C_8 -alkylsulfonyl or phenyl which may be substituted by up to 3 radicals selected from the group consisting of C_1 - to C_8 -

alkyl, C₁- to C₈-alkoxy, C₁- to C₈-alkoxycarbonyl, C₁- to C₈-acyloxy, carboxyl, cyano, nitro, chlorine, bromine, sulfonyl and C₁- to C₈-alkylsulfonyl, where R¹ optionally is the group –NQ-CO-, which is bonded with its carbonyl carbon atom to the ortho position of the adjacent phenyl ring to form a benzopyrrolidone system, and in which Q is hydrogen or a C₁-C₈-alkyl radical;

Z is a substituent selected from the group consisting of C₁- to C₈-alkyl, C₁- to C₈ alkoxy, C₁- to C₈-alkoxycarbonyl, C₁- to C₈-acyloxy, carboxyl, cyano, nitro, fluorine, chlorine, bromine, sulfonyl, C₁- to C₈-alkylsulfonyl, amino, mono- or di-C₁- to C₈-alkylamino, carboxamido (with or without one or two C₁- to C₈-alkyl groups on the amide nitrogen), hydroxyl and saturated or unsaturated five- and six-membered heterocyclic radicals, which may be benzofused, and any two adjacent Z substituents may also form a saturated or unsaturated five- or six-membered ring, and in the case of p=0 an ortho-disposed carboxyl group may be combined with the carbonyl group present and a nitrogen atom attached directly to this carbonyl group to form a cyclic imide;

n is 1, 2 or 3 and p is 0, 1, 2, 3, 4 or 5;

Y is the radical of an aliphatic, cycloaliphatic, or mixed aliphatic-aromatic group which has at least m' primary and/or secondary amino groups, which are capable of forming amide bonds with the structural unit of the formula (I)



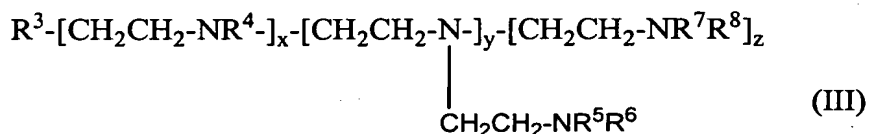
and the tertiary and/or free primary and/or secondary nitrogen atoms present in the compounds of radical Y optionally being quaternized; and

m is the number of structural units (I) bonded to primary and/or secondary amino groups and hydroxyl groups and accounts for from 10 to 100 % of the number of these m' groups which range from 1 to 200, wherein

Y is the radical of a compound selected from the group consisting of:

(a) an aliphatic or cycloaliphatic oligoamine selected from the group consisting of diethylenetriamine, dipropylenetriamine, triethylenetetramine, tetraethylenepentamine, pentaethylenehexamine, N-(2-aminoethyl)-1,3-propanediamine, 3-(dimethylamino)propylamine, N,N'-bis(3-aminopropyl)-1,2-ethylenediamine, N,N,N',N'-tetrakis(3-aminopropyl)-1,2-ethylenediamine, N,N,N',N'-tetrakis[3-(C₁- to C₄-alkylamino)propyl]-1,2-ethylenediamine, N,N'-bis(3-aminopropyl)piperazine and N,N'-bis[3-(C₁- to C₄-alkylamino)propyl]piperazine;

(b) a polyethyleneimine of the formula (III)

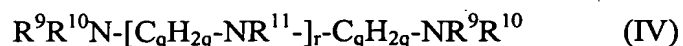


which has an average molecular weight (M_w) ranging from 200 to 1,000,000 and wherein radicals R³ to R⁸ are independently hydrogen, linear or branched C₁- to C₂₀-alkyl, -alkoxy, - (alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C₂- to C₂₀-alkenyl radicals or C₆- to C₂₀-aryl, -aryloxy, -arylcarboxy or -arylamino radicals which optionally are substituted, and R⁴ and R⁵ are each additionally polyethyleneimine polymer chains, and x, y and z are independently 0 or an integer;

(c) a polyamidoamine which has an average molecular weight (M_w) ranging from 500 to 100,000,000, which is prepared by reaction of C₄- to C₁₀-dicarboxylic acids with poly(C₂- to C₄-alkylene)polyamines having from 3 to 20 basic nitrogen atoms in the molecule and

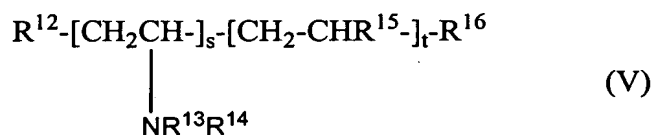
which has at least m' primary and/or secondary amino groups which form amide bonds with the structural unit (I);

(d) a polyamine of formula (IV)



which has an average molecular weight (M_w) ranging 100 to 100,000,000 and wherein the radicals R^9 to R^{11} are independently hydrogen, linear or branched C_1 - to C_{20} -alkyl, -alkoxy, - (alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C_2 - to C_{20} -alkenyl radicals or C_6 - to C_{20} -aryl, -aryloxy, -arylcarboxy or -arylamino radicals which optionally are substituted, q is an integer from 2 to 6 and r is an integer, wherein the alkylamino radicals mentioned are optionally continued in the alkyl moiety; and

(e) a polyvinylamine of formula (V)



which has an average molecular weight (M_w) ranging from 300 to 100,000,000 and wherein R^{12} to R^{16} are independently hydrogen, linear or branched C_1 - to C_{20} -alkyl, -alkoxy, - (alkyl)carboxy, -phosphonoalkyl, -alkylamino radicals, C_2 - to C_{20} -alkenyl radicals or C_6 - to C_{20} -aryl, -aryloxy, -arylcarboxy or -arylamino radicals which optionally are substituted, and R^{15} is additionally a formamidyl radical, s is an integer and t is 0 or an integer.